WE CLAIM AS OUR INVENTION:

1. A method for processing a computed tomography image comprising the steps of:

obtaining a computed tomography image of a lung of a subject with contrast agent administered to the subject so as to affect said image, said image being comprised of pixels respectively having gray scale values associated therewith;

determining pixels representing pulmonary parenchyma in said image, as pulmonary parenchyma pixels; and

generating a processed image by presenting said pulmonary parenchyma pixels in false colors and presenting remaining pixels in said image in said gray scale values.

2. A method as claimed in claim 1 wherein the step of determining the pulmonary parenchyma pixels comprises applying a contour finding algorithm to said image and thereby separating said pulmonary parenchyma pixels from said remaining pixels.

3. A method as claimed in claim 1 wherein each of said pixels in said image has an HU value associated therewith, and comprising determining said pulmonary parenchyma pixels, together with pixels representing bronchia and vessels, based on said HU values, and removing said pixels representing bronchia and vessels from said pulmonary parenchyma pixels.

4. A method as claimed in claim 3 wherein said pulmonary parenchyma pixels and said pixels representing bronchia and vessels comprise a totality of pixels, and comprising removing only a portion of said totality of pixels which does not exceed a predetermined maximum percentage of said totality of pixels.

5. A method as claimed in claim 4 comprising classifying the removed pixels as invalid pixels.

6. A method as claimed in claim 5 comprising subjecting a region of said image containing said pulmonary parenchyma pixels to a smoothing operation and excluding said invalid pixels from said smoothing operation.

7. A method as claimed in claim 6 comprising conducting a sliding averaging of said pixels in said region containing said pulmonary parenchyma pixels as said smoothing operation.

8. A method as claimed in claim 6 comprising selecting only a plurality of pixels, from among said pixels in said region containing said pulmonary parenchyma pixels, for smoothing in said smoothing operation.

9. A method as claimed in claim 8 comprising identifying a middle pixel in said plurality of pixels selected for said smoothing operation, and conducting said

smoothing operation by generating an average value of said plurality of pixels selected for said smoothing operation, referenced to said middle pixel.

10. A method as claimed in claim 9 comprising designating a minimum proportion of valid pixels among said plurality of pixels selected for said smoothing operation, and setting said middle pixel to an invalid status if said minimum proportion is not reached.

11. A method as claimed in claim 5 comprising superimposing said pulmonary parenchyma pixels presented in false colors on said pixels presented in gray scale values, and replacing any pixels classified as invalid with corresponding pixels of said image in gray scale values.

12. A method as claimed in claim 1 comprising subjecting said pulmonary parenchyma pixels presented in false colors and said remaining image regions presented in said gray scale values to respectively independent windowing operations.

13. A method as claimed in claim 12 comprising windowing the pulmonary parenchyma pixels presented in false colors dependent on a histogram of said pulmonary parenchyma pixels.

14. A method as claimed in claim 13 wherein said histogram has a center of gravity, and employing said center of gravity as a central value in said windowing

of said pulmonary parenchyma pixels, and setting a width of a window in said windowing of said pulmonary parenchyma pixels to a fixed value of approximately 100 HU.

15. A method as claimed in claim 1 comprising obtaining a plurality of computed tomography images of said lung comprising, in combination, volume data from said subject, and for each of said images in said plurality of images, determining said pulmonary parenchyma pixels and generating a processed image wherein the pulmonary parenchyma pixels are presented in false colors and wherein the remaining image regions are presented in said gray scale values.

16. A method as claimed in claim 15 comprising conducting a multi-planar image reconstruction of said volume data comprised of said plurality of images.

17. A method as claimed in claim 1 wherein said computed tomography image is a first computed tomography image and wherein said processed image is a first processed image, and comprising the additional steps of:

obtaining a second computed tomography image of said lung of said subject without said contrast agent effecting said second computed tomography image, said second computed tomography image being comprised of a plurality of pixels respectively having gray scale values associated therewith, and containing pixels representing pulmonary parenchyma, as pulmonary parenchyma pixels;

generating a second processed image by presenting said pulmonary parenchyma pixels in said second computed tomography image in false colors and presenting said remaining image regions in said second computed tomography image in said gray scale values; and

subtracting said first processed image and said second processed image from each other.

18. A computed tomography apparatus for processing a computed tomography image comprising:

a scanner with a contrast agent injector for obtaining a computed tomography image of a lung of a subject with contrast agent administered to the subject so as to effect said image, said image being comprised of pixels respectively having gray scale values associated therewith;

a processor for determining pixels representing pulmonary parenchyma in said image, as pulmonary parenchyma pixels;

a display connected to said processor; and

said processor generating a processed image wherein said pulmonary parenchyma pixels are presented in false colors and remaining pixels in said image are presented in said gray scale values and causing said processed image to be displayed at said display.

19. A computed tomography apparatus as claimed in claim 18 wherein said computed tomography image is a first computed tomography image and wherein said processed image is a first processed image, and wherein:

said scanner obtains a second computed tomography image of said lung of said subject without said contrast agent affecting said second computed tomography image, said second computed tomography image being comprised of a plurality of pixels respectively having gray scale values associated therewith, and containing pixels representing pulmonary parenchyma, as pulmonary parenchyma pixels;

said processor generating a second processed image wherein said pulmonary parenchyma pixels in said second computed tomography image are presented in false colors and remaining image regions in said second computed tomography image are presented in said gray scale values; and

said processor subtracting said first processed image and said second processed image from each other to obtain a resultant image, said processor causing said resultant image to be displayed on said display..

20. A computed tomography apparatus as claimed in claim 18 comprising a user interface, including said display, connected to said processor, said user interface having an actuatable operating element for implementing the determination of pixels representing pulmonary parenchyma in said image and the display of said processed image.

21. A workstation for processing a computed tomography image of a lung of a subject with contrast agent administered to the subject so as to affect said image, said image being comprised of pixels respectively having gray scale values associated therewith, said workstation comprising:

a processor for determining pixels representing pulmonary parenchyma in said image, as pulmonary parenchyma pixels;

a display connected to said processor; and

said processor generating a processed image wherein said pulmonary parenchyma pixels are presented in false colors and remaining pixels in said image are presented in said gray scale values, and said processor causing said processed image to be displayed on said display.

22. A workstation as claimed in claim 21 wherein said computed tomography image is a first computed tomography image and wherein said processed image is a first processed image, and wherein said processor is supplied with a second computed tomography image of said lung of said subject without said contrast agent affecting said second computed tomography image, said second computed tomography image being comprised of a plurality of pixels respectively having gray scale values associated therewith, and containing pixels representing pulmonary parenchyma, as pulmonary parenchyma pixels, and wherein said processor generates a second processed image wherein said pulmonary parenchyma pixels in said second computed tomography image are presented in false colors and remaining image regions in said second computed tomography image are presented in said gray scale

values, and wherein said processor subtracts said first processed image and said second processed image from each other to obtain a resultant image and causes said resultant image to be displayed on said display.

23. A workstation as claimed in claim 21 comprising a user interface, including said display, connected to said processor, said user interface having an actuatable operating element for implementing the determination of pixels representing pulmonary parenchyma in said image and the display of said processed image.